REMARKS

The Office Action raised an issue with regards to the Declaration under 37 CFR § 1.175. Applicant had utilized the suggested PTO Form SB/52 for the Reissue Application Declaration and specifically noted that the patent claimed more or less than applicant had the right to claim in the patent and referred to "charge" which is set forth in Claims 5, 21 and 27 as defining charging each cell with a discharge gas. It was believed that applicant is entitled to claim subject matter of the type set forth in Claims 28-58, including forming a protective layer of an alkaline earth oxide with a particular crystal face orientation on a dielectric layer.

Applicant requests a reconsideration of the Declaration in view of the above explanation.

The Office Action rejected Claims 1, 5-13, 20, 28, 32-40, 47 and 55-57 as being obvious over a combination of the *Shinoda et al.* (European Patent Application Publication EP 279,744) in view of the *Lee et al.* (International Publication No. WO 96/32520).

The Office Action contended that the *Shinoda et al.* reference taught a plasma display panel with a magnesium oxide layer having a discharge gas of Xenon gas mixed with an inert gas at a gas pressure of 600 Torr. The Office Action further contended that the only difference from *Shinoda et al.* was the manner of depositing magnesium oxide to create the thin film. The Office Action contended, however, that the *Lee et al.* reference taught such a deposition of a thin film on Page 8.

The present invention recognizes the necessity of increasing the brightness in large plasma display panels while at the same time avoiding a deterioration of the fluorescent material and a sputtering deterioration of a dielectric glass layer. The present invention further proposed adding Xenon gas of 10% or greater to increase the ultraviolet radiation within a pressure range of 500 to 700 Torrs.

The present invention utilizes a crystal depositing of an alkaline earth oxide to provide a dense protective layer with a (110)-face orientation. In this manner, as noted in Column 10, Lines 12-55, of our specification, a specific (110)-face orientation of magnesium oxide on a dielectric glass layer can be formed by a irradiation of ion or an electron beam as well with a chemical vapor dry method. As a result, a relatively dense protective surface, that can resist a sputtering effect during the normal operation of the plasma display panel, is created while at the same time reducing the driving voltage and improving panel brightness. Problems with reactions to water content in the air which can form hydroxides are reduced, and the protective layer has a higher heat resistance to facilitate heat treatments necessary in the production of the plasma display panels at 450° C.

The present invention more than adequately discloses significant advantages for a (110)-face orientation of the magnesium oxide layer to resolve problems that have existed in the protective layers of magnesium oxide formed in a vacuum vapor deposition method with a (111)-crystal-face orientation.

The *Shinoda et al.* reference recognized that a mixture of Helium and Xenon gas could cause a deterioration of a magnesium oxide layer formed over electrodes and thereby shorten the operating life. It attempted to address this problem, not by improving the crystal structure of the magnesium oxide, but rather by proposing different mixes of discharge gas, including Neon, Xenon and Argon gases. For example, as noted on Page 3, when a mixture of Argon and Neon gases had 0.2% of Xenon gas at a pressure of 600° Torr, there was purportedly an improvement in brightness and voltage characteristics.

The *Shinoda et al.* reference was also concerned with suppressing the color orange spectrum. In this regard, different embodiments proposed argon gas of more than 50% to cancel

the visible orange emission from the neon gas discharge. Other examples suggested increasing the Xenon to 0.35% at a pressure of 650 Torr which purportedly increased the operating life of the panel. Figure 6 showed the effect of Xenon gas with a combination of Neon, 20% Argon and the Xenon gas being no more than a maximum of 8% (see Column 5, Line 18) at a pressure of 400 Torr.

A person of ordinary skill in this field would readily recognize that the specific solution to the problem of a gas discharge panel taught by *Shinoda et al.* is directed to varying the discharge gas composition mixture and discloses in its embodiments a relatively small percentage of Xenon gas at a pressure of 600 Torr or higher and, alternatively, a maximum limit of 8% Xenon gas at a pressure of 400 Torr.

This teaching is distinguishable with the solution offered by the present invention of increasing the Xenon gas to 10% or greater in the pressure range of 500 to 700 Torr and improving the structure of the protective alkaline earth oxide by providing a 110-crystal face orientation.

The Office Action actually recognizes the deficiency of the *Shinoda et al.* reference in not teaching equivalent deposition techniques with regards to Magnesium Oxide. This is understandable since the teaching of the *Shinoda et al.* reference did not even address any alteration in the crystal structure of the magnesium oxide, but rather taught variances in the weight components of the discharge gas and the pressures in which the gases would operate.

The *Lee et al.* reference was erroneously cited for teaching an electron beam deposition of magnesium oxide purportedly taught at Page 8. Page 8, however, while teaching various oxides, does not teach magnesium oxide. Page 8, at Line 13, only teaches Magnesium Fluoride.

Additionally, the deposition of the dielectric coatings is apparently directed to optical multilayer films and are not directed to plasma display panels.

While the *Lee et al.* reference teaches a method of applying an electron beam gun to an evaporant source of coating material with a plasma beam neutralizer, its purpose was apparently to provide "an environmental stable refractive index". See Page 9, Line 7. Thus, *Lee*'s concerns were directed to a low surface roughness value and an ability to provide a large number of optical layers over a range of layer thicknesses, this being a characteristic of an optical coating design to address, for example, reflection and refraction problems of light beam transmissions.

Accordingly, the citation of the *Lee et al.* reference could have only been taken in hindsight from the teachings of the present application under examination. There is certainly no teaching or suggestion in either the *Shinoda et al.* or *Lee et al.* reference that recognizes the problems addressed and resolved in the manner set forth in our present invention.

The statement in the Office Action that it would have been obvious to a person of skill in the art to simply determine an optimum operable orientation of the protective layer could have only come in hindsight from the present application, not from the applied references.

> Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references. See, e.g., C.R. Bard, Inc. v. M3 Sys., Inc., 157 F.3d 1340, 1352, 48 USPQ2d 1225, 1232 (Fed.Cir.1988) (describing "teaching or suggestion or motivation [to combine]" as an "essential evidentiary component of an obviousness holding"); In re Rouffet, 149 F.3d 1350, 1359, 47 USPQ2d 1453, 1459 (Fed.Cir.1998) ("the Board must identify specifically ... the reasons one of ordinary skill in the art would have been motivated to select the references and combine them");
>
> *In re Anita Dembiczak,* 50 U.S.P.Q.2d 1614 (Fed. Cir. 1999).

In summary, our inventors recognize a specific advantageous effect of providing an alkaline earth oxide with a particular crystal face orientation to insure a high sputtering resistance to increase the operative life of a plasma display panel. Additionally, the present invention also maintains the discharge voltage at a desirable low value. The specific problem addressed by our present inventors is not recognized, nor is the solution suggested by any combination of the two references of record. Accordingly, it is believed that the present application is allowable, and an early notification of the same is requested.

Examiner Kunemund cited "THIN FILM PROCESSES" and "EPITAXIAL GROWTH" in co-pending application 09/997,536 and applicant wishes to again bring these references to his attention in this prosecution along with "Fabrication Process for Discharge Panels" IBM Technical Disclosure to insure full disclosure.

If the Examiner believes that a telephone interview will help further the prosecution of this case, he is respectfully requested to contact the undersigned attorney at the listed telephone number.

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on September 1, 2004.

By: James Lee

Signature

Dated: September 1, 2004

Very truly yours,

SNELL & WILMER L.L.P.

Joseph W. Price
Registration No. 25,124
1920 Main Street, Suite 1200
Irvine, California 92614-7230
Telephone: (949) 253-4920